



ANALYTICAL REPORT

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062

Tuesday, July 20, 2021

Colette Gaona

Landau Associates

1500 SW First Avenue Suite 1015

Portland, OR 97201

RE: A1G0399 - PCC LPC - 883002.000.040.046

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A1G0399, which was received by the laboratory on 7/14/2021 at 12:30:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [DAuvil@apex-labs.com](mailto:DAuvil@apex-labs.com), or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

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Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1

3.6 degC

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This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

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Darrell Auvil, Client Services Manager



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1500 SW First Avenue Suite 1015  
Portland, OR 97201

Project: PCC LPC

Project Number: 883002.000.040.046

Project Manager: Colette Gaona

Report ID:

A1G0399 - 07 20 21 1657

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PCC-LPC-BOX-01	A1G0399-01	Soil	07/14/21 11:10	07/14/21 12:30
PCC-LPC-BOX-02	A1G0399-02	Soil	07/14/21 11:30	07/14/21 12:30

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ORELAP ID: OR100062

**Landau Associates**1500 SW First Avenue Suite 1015  
Portland, OR 97201Project: **PCC LPC**Project Number: **883002.000.040.046**Project Manager: **Colette Gaona****Report ID:****A1G0399 - 07 20 21 1657**

## ANALYTICAL SAMPLE RESULTS

## Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>PCC-LPC-BOX-01 (A1G0399-01RE1)</b>		<b>Matrix: Soil</b>			<b>Batch: 1070509</b>		<b>C-07</b>	
Aroclor 1016	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
Aroclor 1221	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
Aroclor 1232	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
Aroclor 1242	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
Aroclor 1248	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
<b>Aroclor 1254</b>	<b>25500</b>	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
Aroclor 1260	ND	---	1050	ug/kg dry	100	07/20/21 10:36	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 118 %</i>		<i>Limits: 60-125 %</i>	<i>100</i>	<i>07/20/21 10:36</i>	<i>EPA 8082A</i>	<i>S-05</i>
<b>PCC-LPC-BOX-02 (A1G0399-02RE2)</b>		<b>Matrix: Soil</b>			<b>Batch: 1070509</b>		<b>C-07</b>	
Aroclor 1016	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
Aroclor 1221	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
Aroclor 1232	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
Aroclor 1242	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
Aroclor 1248	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
<b>Aroclor 1254</b>	<b>198000</b>	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
Aroclor 1260	ND	---	10400	ug/kg dry	1000	07/20/21 12:05	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: %</i>		<i>Limits: 60-125 %</i>	<i>1000</i>	<i>07/20/21 12:05</i>	<i>EPA 8082A</i>	<i>S-01</i>

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**Landau Associates**1500 SW First Avenue Suite 1015  
Portland, OR 97201Project: **PCC LPC**Project Number: **883002.000.040.046**Project Manager: **Colette Gaona****Report ID:****A1G0399 - 07 20 21 1657****ANALYTICAL SAMPLE RESULTS****TCLP Metals by EPA 6020B (ICPMS)**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PCC-LPC-BOX-01 (A1G0399-01)				Matrix: Soil				
Batch: 1070568								
Arsenic	ND	---	0.100	mg/L	10	07/19/21 14:13	1311/6020B	
Barium	ND	---	5.00	mg/L	10	07/19/21 14:13	1311/6020B	
Cadmium	ND	---	0.100	mg/L	10	07/19/21 14:13	1311/6020B	
Chromium	ND	---	0.100	mg/L	10	07/19/21 14:13	1311/6020B	
Lead	ND	---	0.0500	mg/L	10	07/19/21 14:13	1311/6020B	
Mercury	ND	---	0.00700	mg/L	10	07/19/21 14:13	1311/6020B	
Selenium	ND	---	0.100	mg/L	10	07/19/21 14:13	1311/6020B	
Silver	ND	---	0.100	mg/L	10	07/19/21 14:13	1311/6020B	
PCC-LPC-BOX-02 (A1G0399-02)				Matrix: Soil				
Batch: 1070568								
Arsenic	ND	---	0.100	mg/L	10	07/19/21 14:18	1311/6020B	
Barium	ND	---	5.00	mg/L	10	07/19/21 14:18	1311/6020B	
Cadmium	ND	---	0.100	mg/L	10	07/19/21 14:18	1311/6020B	
Chromium	ND	---	0.100	mg/L	10	07/19/21 14:18	1311/6020B	
Lead	ND	---	0.0500	mg/L	10	07/19/21 14:18	1311/6020B	
Mercury	ND	---	0.00700	mg/L	10	07/19/21 14:18	1311/6020B	
Selenium	ND	---	0.100	mg/L	10	07/19/21 14:18	1311/6020B	
Silver	ND	---	0.100	mg/L	10	07/19/21 14:18	1311/6020B	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>PCC-LPC-BOX-01 (A1G0399-01)</b>				<b>Matrix: Soil</b>		<b>Batch: 1070455</b>		
% Solids	92.5	---	1.00	%	1	07/16/21 07:56	EPA 8000D	
<b>PCC-LPC-BOX-02 (A1G0399-02)</b>				<b>Matrix: Soil</b>		<b>Batch: 1070455</b>		
% Solids	93.1	---	1.00	%	1	07/16/21 07:56	EPA 8000D	

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ANALYTICAL SAMPLE RESULTS

**TCLP Extraction by EPA 1311**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>PCC-LPC-BOX-01 (A1G0399-01)</b>				<b>Matrix: Soil</b>		<b>Batch: 1070541</b>		
TCLP Extraction	PREP	---		N/A	1	07/16/21 14:34	EPA 1311	
<b>PCC-LPC-BOX-02 (A1G0399-02)</b>				<b>Matrix: Soil</b>		<b>Batch: 1070541</b>		
TCLP Extraction	PREP	---		N/A	1	07/16/21 14:34	EPA 1311	

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Portland, OR 97201Project: **PCC LPC**Project Number: **883002.000.040.046**Project Manager: **Colette Gaona****Report ID:****A1G0399 - 07 20 21 1657**

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 1070509 - EPA 3546</b>												<b>Soil</b>
<b>Blank (1070509-BLK1)</b>												<b>C-07</b>
Prepared: 07/16/21 07:01 Analyzed: 07/17/21 14:00												
<u>EPA 8082A</u>												
Aroclor 1016	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	---	9.09	ug/kg wet	1	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 96 % Limits: 60-125 % Dilution: 1x												
<b>LCS (1070509-BS1)</b>												<b>C-07</b>
Prepared: 07/16/21 07:01 Analyzed: 07/17/21 14:19												
<u>EPA 8082A</u>												
Aroclor 1016	179	---	10.0	ug/kg wet	1	250	---	72	47-134%	---	---	
Aroclor 1260	210	---	10.0	ug/kg wet	1	250	---	84	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 95 % Limits: 60-125 % Dilution: 1x												
<b>Duplicate (1070509-DUP1)</b>												<b>C-07</b>
Prepared: 07/16/21 07:01 Analyzed: 07/17/21 15:21												
<u>QC Source Sample: Non-SDG (A1G0132-04)</u>												
Aroclor 1016	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1260	ND	---	11.4	ug/kg dry	1	---	ND	---	---	---	30%	
Surr: Decachlorobiphenyl (Surr) Recovery: 76 % Limits: 60-125 % Dilution: 1x												
<b>Matrix Spike (1070509-MS1)</b>												<b>C-07</b>
Prepared: 07/16/21 07:01 Analyzed: 07/17/21 17:25												
<u>QC Source Sample: Non-SDG (A1G0355-02)</u>												
<u>EPA 8082A</u>												
Aroclor 1016	187	---	9.55	ug/kg dry	1	239	ND	79	47-134%	---	---	
Aroclor 1260	209	---	9.55	ug/kg dry	1	239	ND	87	53-140%	---	---	
Surr: Decachlorobiphenyl (Surr) Recovery: 97 % Limits: 60-125 % Dilution: 1x												

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Project Manager: **Colette Gaona**

Report ID:

**A1G0399 - 07 20 21 1657**

QUALITY CONTROL (QC) SAMPLE RESULTS

**Polychlorinated Biphenyls by EPA 8082A**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1070509 - EPA 3546							Soil					

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## QUALITY CONTROL (QC) SAMPLE RESULTS

## TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 1070568 - EPA 1311/3015</b>												
<b>Sediment</b>												
<b>Blank (1070568-BLK1)</b>												
Prepared: 07/19/21 09:44 Analyzed: 07/19/21 14:03												
<b>1311/6020B</b>												
Arsenic	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Barium	ND	---	5.00	mg/L	10	---	---	---	---	---	---	TCLP
Cadmium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Chromium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Lead	ND	---	0.0500	mg/L	10	---	---	---	---	---	---	TCLP
Mercury	ND	---	0.00700	mg/L	10	---	---	---	---	---	---	TCLP
Selenium	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Silver	ND	---	0.100	mg/L	10	---	---	---	---	---	---	TCLP
<b>LCS (1070568-BS1)</b>												
Prepared: 07/19/21 09:44 Analyzed: 07/19/21 14:08												
<b>1311/6020B</b>												
Arsenic	4.68	---	0.100	mg/L	10	5.00	---	94	80-120%	---	---	TCLP
Barium	9.29	---	5.00	mg/L	10	10.0	---	93	80-120%	---	---	TCLP
Cadmium	0.931	---	0.100	mg/L	10	1.00	---	93	80-120%	---	---	TCLP
Chromium	4.48	---	0.100	mg/L	10	5.00	---	90	80-120%	---	---	TCLP
Lead	4.90	---	0.0500	mg/L	10	5.00	---	98	80-120%	---	---	TCLP
Mercury	0.0964	---	0.00700	mg/L	10	0.100	---	96	80-120%	---	---	TCLP
Selenium	1.11	---	0.100	mg/L	10	1.00	---	111	80-120%	---	---	TCLP
Silver	0.925	---	0.100	mg/L	10	1.00	---	93	80-120%	---	---	TCLP
<b>Matrix Spike (1070568-MS1)</b>												
Prepared: 07/19/21 09:44 Analyzed: 07/19/21 14:27												
<b>QC Source Sample: Non-SDG (A1G0447-01)</b>												
<b>1311/6020B</b>												
Arsenic	4.69	---	0.100	mg/L	10	5.00	ND	94	50-150%	---	---	
Barium	11.2	---	5.00	mg/L	10	10.0	ND	112	50-150%	---	---	
Cadmium	0.971	---	0.100	mg/L	10	1.00	ND	97	50-150%	---	---	
Chromium	4.51	---	0.100	mg/L	10	5.00	ND	90	50-150%	---	---	
Lead	5.21	---	0.0500	mg/L	10	5.00	0.306	98	50-150%	---	---	
Mercury	0.0968	---	0.00700	mg/L	10	0.100	ND	97	50-150%	---	---	
Selenium	0.929	---	0.100	mg/L	10	1.00	ND	93	50-150%	---	---	
Silver	0.924	---	0.100	mg/L	10	1.00	ND	92	50-150%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1070455 - Total Solids (Dry Weight)							Soil					
Duplicate (1070455-DUP1)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0320-02)</u>												
% Solids	97.6	---	1.00	%	1	---	97.6	---	---	0.03	10%	
Duplicate (1070455-DUP2)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0320-04)</u>												
% Solids	97.6	---	1.00	%	1	---	97.6	---	---	0.02	10%	
Duplicate (1070455-DUP3)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-04)</u>												
% Solids	75.8	---	1.00	%	1	---	78.3	---	---	3	10%	
Duplicate (1070455-DUP4)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-08)</u>												
% Solids	80.0	---	1.00	%	1	---	80.0	---	---	0.06	10%	
Duplicate (1070455-DUP5)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-12)</u>												
% Solids	82.4	---	1.00	%	1	---	83.2	---	---	1	10%	
Duplicate (1070455-DUP6)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-16)</u>												
% Solids	77.4	---	1.00	%	1	---	77.2	---	---	0.2	10%	
Duplicate (1070455-DUP7)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-23)</u>												
% Solids	88.5	---	1.00	%	1	---	88.4	---	---	0.08	10%	
Duplicate (1070455-DUP8)			Prepared: 07/15/21 08:02    Analyzed: 07/16/21 07:56									
<u>QC Source Sample: Non-SDG (A1G0376-27)</u>												
% Solids	82.6	---	1.00	%	1	---	82.1	---	---	0.6	10%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 1070455 - Total Solids (Dry Weight)							Soil					
Duplicate (1070455-DUP9)			Prepared: 07/15/21 18:38    Analyzed: 07/16/21 07:56									
QC Source Sample: Non-SDG (A1G0440-01)												
% Solids	92.7	---	1.00	%	1	---	92.3	---	---	0.4	10%	
Duplicate (1070455-DUPA)			Prepared: 07/15/21 18:38    Analyzed: 07/16/21 07:56									
QC Source Sample: Non-SDG (A1G0444-10)												
% Solids	80.1	---	1.00	%	1	---	79.2	---	---	1	10%	
Duplicate (1070455-DUPB)			Prepared: 07/15/21 18:38    Analyzed: 07/16/21 07:56									
QC Source Sample: Non-SDG (A1G0446-02)												
% Solids	86.0	---	1.00	%	1	---	85.0	---	---	1	10%	
Duplicate (1070455-DUPC)			Prepared: 07/15/21 19:59    Analyzed: 07/16/21 07:56									
QC Source Sample: Non-SDG (A1G0458-02)												
% Solids	72.0	---	1.00	%	1	---	72.1	---	---	0.2	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

Apex Laboratories

Darrell Auvil, Client Services Manager

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**ANALYTICAL REPORT****Apex Laboratories, LLC**6700 S.W. Sandburg Street  
Tigard, OR 97223  
503-718-2323  
ORELAP ID: OR100062**Landau Associates**1500 SW First Avenue Suite 1015  
Portland, OR 97201Project: **PCC LPC**Project Number: **883002.000.040.046**Project Manager: **Colette Gaona****Report ID:****A1G0399 - 07 20 21 1657****SAMPLE PREPARATION INFORMATION****Polychlorinated Biphenyls by EPA 8082A****Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1070509</b>							
A1G0399-01RE1	Soil	EPA 8082A	07/14/21 11:10	07/16/21 09:49	10.33g/5mL	10g/5mL	0.97
A1G0399-02RE2	Soil	EPA 8082A	07/14/21 11:30	07/16/21 09:49	10.33g/5mL	10g/5mL	0.97

**TCLP Metals by EPA 6020B (ICPMS)****Prep: EPA 1311/3015**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1070568</b>							
A1G0399-01	Soil	1311/6020B	07/14/21 11:10	07/19/21 09:44	10mL/50mL	10mL/50mL	1.00
A1G0399-02	Soil	1311/6020B	07/14/21 11:30	07/19/21 09:44	10mL/50mL	10mL/50mL	1.00

**Percent Dry Weight****Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1070455</b>							
A1G0399-01	Soil	EPA 8000D	07/14/21 11:10	07/15/21 08:02			NA
A1G0399-02	Soil	EPA 8000D	07/14/21 11:30	07/15/21 08:02			NA

**TCLP Extraction by EPA 1311****Prep: EPA 1311 (TCLP)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1070541</b>							
A1G0399-01	Soil	EPA 1311	07/14/21 11:10	07/16/21 16:51	100g/2000g	100g/2000g	NA
A1G0399-02	Soil	EPA 1311	07/14/21 11:30	07/16/21 16:51	100g/2000g	100g/2000g	NA

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Project: **PCC LPC**

Project Number: **883002.000.040.046**

Project Manager: **Colette Gaona**

**Report ID:**

**A1G0399 - 07 20 21 1657**

## QUALIFIER DEFINITIONS

**Client Sample and Quality Control (QC) Sample Qualifier Definitions:**

**Apex Laboratories**

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- S-01** Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- TCLP** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 1070541.

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### REPORTING NOTES AND CONVENTIONS:

**Abbreviations:**

DET Analyte DETECTED at or above the detection or reporting limit.  
ND Analyte NOT DETECTED at or above the detection or reporting limit.  
NR Result Not Reported  
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

**Detection Limits: Limit of Detection (LOD)**

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).  
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

**Reporting Limits: Limit of Quantitation (LOQ)**

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

**Reporting Conventions:**

Basis: Results for soil samples are generally reported on a 100% dry weight basis.  
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.  
  
"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")  
See Percent Solids section for details of dry weight analysis.  
"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.  
" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

**QC Source:**

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

**Miscellaneous Notes:**

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.  
  
" \*\*\* " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

**Blanks:**

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).  
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.  
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.  
For further details, please request a copy of this document.

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## ANALYTICAL REPORT

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Project: **PCC LPC**

Project Number: **883002.000.040.046**

Project Manager: **Colette Gaona**

**Report ID:**

**A1G0399 - 07 20 21 1657**

### REPORTING NOTES AND CONVENTIONS (Cont.):

**Blanks (Cont.):**

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

**Preparation Notes:**

**Mixed Matrix Samples:**

**Water Samples:**

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

**Soil and Sediment Samples:**

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

**Sampling and Preservation Notes:**

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Portland, OR 97201

Project: **PCC LPC**

Project Number: **883002.000.040.046**

Project Manager: **Colette Gaona**

**Report ID:**

**A1G0399 - 07 20 21 1657**

**LABORATORY ACCREDITATION INFORMATION**

**ORELAP Certification ID: OR100062 (Primary Accreditation)** -

**EPA ID: OR01039**

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

**Apex Laboratories**

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

**Secondary Accreditations**

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

**Subcontract Laboratory Accreditations**

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

**Field Testing Parameters**

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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# ANALYTICAL REPORT

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ORELAP ID: OR100062

Landau Associates

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Portland, OR 97201

Project: **PCC LPC**

Project Number: **883002.000.040.046**

Project Manager: **Colette Gaona**

Report ID:

**A1G0399 - 07 20 21 1657**

<b>APEX LABS</b> 6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323		<b>CHAIN OF CUSTODY</b> Lab # <b>A1G0399</b> coc 1 of 1	
Company: <b>Landau Associates</b>		Project Name: <b>PCC LPC TrenL for Sampling</b>	
Address: <b>1500 SW First Avenue Suite 1015 Portland, OR 97201</b>		Project #: <b>883002.000.040.046</b>	
Sampled by: <b>JEL</b>		Email: <b>cgadwa@landauassociates.com</b>	
Site Location: <b>WA CA</b>		ANALYSIS REQUEST	
AK ID <b>---</b>		james.roysen@pccstructural.com	
SAMPLE ID		ARCHIVE	
PCC-LPC-Box-01		AL, Sb, As, Ba, Be, Bi, Cd, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Ag, Na, Ti, V, Zn	
PCC-LPC-Box-02		TOTAL DISS. TCLP	
		TCLP Metals (8)	
		Priority Metals (13)	
		RCRA Metals (8)	
		8081 Pest	
		8082 PCBs	
		8270 Semi-Volat Full List	
		8270 SIM PAHs	
		8260 VOCs Full List	
		8260 Halo VOCs	
		8260 RBDM VOCs	
		8260 BTEX	
		NWTFH-GX	
		NWTFH-DX	
		NWTFH-HCD	
		# OF CONTAINERS	
		MATRIX	
		TIME	
		DATE	
		LAB ID #	
		Normal Turn Around Time (TAT) = 10 Business Days	
		SPECIAL INSTRUCTIONS:	
TAT Requested (circle)		1 Day 2 Day 4 Day 5 Day Other: <b>Accelerated</b>	
RELINQUISHED BY:		RECEIVED BY:	
Signature: <b>[Signature]</b>		Signature: <b>[Signature]</b>	
Date: <b>7/14/21</b>		Date: <b>7/14/21</b>	
Printed Name: <b>Desiree Courmouge</b>		Printed Name: <b>Amesha Keph</b>	
Time: <b>1230</b>		Time: <b>1220</b>	
Company: <b>Landau Associates</b>		Company: <b>Apex Labs</b>	

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*[Signature]*

Darrell Auvel, Client Services Manager



## ANALYTICAL REPORT

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Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

**Landau Associates**

1500 SW First Avenue Suite 1015

Portland, OR 97201

Project: **PCC LPC**Project Number: **883002.000.040.046**Project Manager: **Colette Gaona****Report ID:****A1G0399 - 07 20 21 1657****APEX LABS COOLER RECEIPT FORM**Client: Landau Associates Element WO#: A1G0399Project/Project #: PCC LPC Trench Soil Sampling #883002.000.040.046**Delivery Info:**Date/time received: 7/14/11 @ 1230 By: AKKDelivered by: Apex ☐ Client ☒ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐**Cooler Inspection** Date/time inspected: 7/14/11 @ 1235 By: AKKChain of Custody included? Yes ☒ No ☐ Custody seals? Yes ☐ No ☒Signed/dated by client? Yes ☒ No ☐Signed/dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>3.6</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>N</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>Good</u>						

Cooler out of temp? (Y/N) ☒ Possible reason why: \_\_\_\_\_Green dots applied to out of temperature samples? Yes ☒ No ☐Out of temperature samples form initiated? Yes ☒ No ☐**Sample Inspection:** Date/time inspected: 7/14/11 @ 13:29 By: TAMAll samples intact? Yes ☒ No ☐ Comments: \_\_\_\_\_Bottle labels/COCs agree? Yes ☒ No ☐ Comments: \_\_\_\_\_COC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: \_\_\_\_\_Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒

Comments: \_\_\_\_\_

Water samples: pH checked: Yes ☐ No ☐ NA ☒ pH appropriate? Yes ☐ No ☐ NA ☒

Comments: \_\_\_\_\_

**Additional information:** \_\_\_\_\_

Labeled by:

TAM

Witness:

AKK

Cooler Inspected by:

TAM

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# ANALYTICAL REPORT

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Landau Associates

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Portland, OR 97201

Project: PCC LPC

Project Number: 883002.000.040.046

Project Manager: Colette Gaona

Report ID:

A1G0399 - 07 20 21 1657

## Apex Labs Cooler Receipt Summary Report

Revised 7/16/21 AT.

<b>APEX LABS</b> 6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323		<b>CHAIN OF CUSTODY</b> Lab # <u>A1G0399</u> coc <u>1-0-1</u>	
Company: <u>Landau Associates</u> Project Mgr: <u>Colette Gaona (LA)</u> Project Name: <u>PCC LPC Trunk (3) Samples</u> Project # <u>883002.000.040.046</u>		Email: <u>cgad@landauassociates.com</u>	
Address: <u>1500 SW First Avenue Suite 1015</u>		Phone: <u>503-718-2323</u>	
Sampled by: <u>JEL</u>		Site Location: <u>WA CA</u>	
AK ID: <u>---</u>		SAMPLE ID: <u>PCC-LPC-Box-01</u>	
DATE: <u>7/16/21</u>		TIME: <u>11:30 AM</u>	
MATRIX: <u>---</u>		# OF CONTAINERS: <u>1</u>	
NWTPH-HCID		NWTPH-GS	
NWTPH-DE		NWTPH-RTX	
8260 RBDM VOCs		8260 HMO VOCs	
8260 HMO VOCs		8260 VOCs Full List	
8270 SIM PAHs		8270 Semi-Volat Full List	
8081 PCBs		8081 PCBs	
RCRA Metals (9)		Priority Metals (13)	
Al, Sn, As, Ba, Be, Bi, Br, Cd, Cr, Cu, Fe, Hg, K, Li, Mg, Mn, Ni, Pb, Se, Si, Sr, Ti, Tl, V, Zn		TCLP Metals (5)	
TOTAL DISS. SOL. (TDS)		ARCHIVE	

SPECIAL INSTRUCTIONS:  
COC revised 7/16/2021 to add TCLP Metals cmg/LAI

TAT Requested (circle): 1 Day 2 Day 5 Day Other: Accelerated

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:
Signature: <u>[Signature]</u> Date: <u>7/16/21</u>	Signature: <u>[Signature]</u> Date: <u>7/16/21</u>
Printed Name: <u>Desirée Guzman</u>	Printed Name: <u>Desirée Guzman</u>
Company: <u>Landau Associates</u>	Company: <u>Apex Labs</u>

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